Analysis of the Benefits the Peer-to-Peer Paradigm brings to Distributed Agile Software Development

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Agile Methods for Distributed Software Development: Communication is Crucial

- **Agile software development:**
  - Goal: get fast results
  - Reducing overhead of classical software development

- Can agile methods be applied in distributed software development (DSD)?

- Every third DSD project – teams < 10 members
  - Direct communication between team members important
  - Plays crucial role in application of agile methods

- Need to compensate for the inability to meet face-to-face!
  → Tool-oriented approach
State-of-the-art Tools for DSD

- **State of the art: traditional tools for on-site development**
  - Based on client server paradigm

- **Centralized architecture orthogonal to the natural structure of DSD!**

- **Communication + data exchange over server**
  - Server must always be available
  - Communication bottleneck
  - Poor scalability
  - Additional latency
  - Suboptimal resource consumption
  - Single point of failure
  - High set-up and maintenance costs
Benefits the Peer-to-Peer Paradigm

- Each communication participant offers and consumes services
- Communication + data exchange done directly
- Significantly lower costs
  - Self organization
  - Optimal resource usage
  - No maintenance costs
- Decreased delay
- Robust
A Peer-to-Peer based Support Tool for Agile Development: ASKME

- **ASKME:**
  - “Awareness Support Keeping Messages Environment”

- **P2P instant messenger as Eclipse plugin:**
  - Offline messaging
  - Highlighting developer who modified the opened code most recently
Offline Messaging: Nowadays
Offline Messaging: Nowadays

Sender is on vacation…

After 1 month…

Receiver doesn’t have any clue that someone tried to contact him…

Receiver has delivered the message.
Offline Messaging ASKME

Replicating the message to the neighbours of the receiver
Highlighting the Most Recent Developer

Who?

Patrick

Me!

Sebastian
Demo Description

Contact view

Chat view

Highlighting the most recent developer
Thank You for Your Attention

Questions?

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Global Software Development Environment“

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